BORISOGLEBSKIY, A.D.

KAMSHILOV, N.A.; ANTONOV, M.V.; BAKHAREV, A.N.; BLINOV, L.F.; BORISOGLEBSKIY, A.D.; GAR, K.A.; GARINA, K.P.; GORSHIN, P.F.; GUTIYEV, G.T.; DELITSINA, A.V.; DUBROVA, P.F.; YEVTUSHENKO, A.F.; YEGOROV, V.I.; YEREMENKO, L.L.; YEFIMOV, V.A.; ZHILITSKIY, Ya.Z.; ZHUCHKOV, N.G., prof.; ZAYETS, V.K.; ISKOL'DSKAYA, R.B.; KOLESNIKOV, V.A., prof.; KOLESNIKOV, Ye.V.; KOSTINA, K.F.; KRUGLOVA, V.A.; LEONT'YEVA, M.N.; LESYUK, Ye.A.; MUKHIN, Ye.N.; NAZARYAN, Ye.A.; NEGRUL', A.M., prof.; ODITSOV, V.A.; OSTAPENKO, V.I.; PETRUSEVICH, P.S.; PROSTOSERDOV, N.N., prof.; RUKAVISHNIKOV, B.I.; RYABOV, I.N.; SABUROV, N.V.; SABUROVA, T.N.; SAVZDARG, V.E.; SEMIN, V.S.; SIMONOVA, M.N.; SMOLYANINOVA, N.K.; SOBOLEVA, V.P.; TARASENKO, M.T.; FETISOV, G.G; CHIZHOV, S.T.; CHUGUNIN, Ya.V., prof.; YAZVITSKIY, M.N.; ROSSOSHCHANSKAYA, V.A., red.; BALLOD, A.I., tekhn.red.

[Fruitgrower's dictionary and handbook] Slovar'-spravochnik sadovoda. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1957. 639 p.
(MIRA 11:1)

(Fruit culture--Dictionaries)

BORISOGLEBSKIY, A.D. (g.Michurinsk)

Pioneer in northern fruit culture. Agrobiologiia no. 1:142-148 Ja-F '61. (MIRA 14:2)
(Spirin, Vladimir Vasil'evich, 1860-1938)
(Fruit culture)

L 52811-65 EWT(d)/EWP(c)/EWA(d)/EWP(v)/T/EWP(k)/EWP(h)/EWP(l) Pf-4

ACCESSION NR: AP5015754 UR/0032/64/030/012/1508/1510

24
0

AUTHOR: Borisoglebskiy, A. I.; Kuz'min, R. V.

TITLE: A unit for testing the reliability and life of springs and automatic valves

14 17

SOURCE: Zavodskaya laboratoriya, v. 30, no. 12, 1964, 1508-1510

TOPIC TAGS: high pressure compressor, spring, valve, industrial instrument

Abstract: Tests of the capacity and durability of the springs and valves of piston compressors have mostly been made on the machines themselves when operating normally. A number of testing units devised for this purpose have failed to achieve complete simulation of normal operation.

The authors devised a unit for impact-fatigue testing the springs and valves of high-pressure air compressors; its design eliminates most of the weaknesses of earlier units. The unit is intended for simultaneous testing of 12 valves at 5-20 cps and maximal spring tension of about 30 kg. There are special heating elements for simulating the temperature conditions of normal operation. The testing unit is equipped with several automatic

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ACCESSION NR: AP5015754

controls which make personal attendance unnecessary after the initial settings.

The testing unit not only reveals defects inherent in a given material or batch, but can be used to control the quality of springs and valves being produced, to evaluate new designs and check against computed values, and as a safeguard in the development of special maximal-reliability machines. Orig. art. has 1 figure.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: PR, IE

NO REF SOV: 000 OTHER: 000 JPRS

Card 2/2

27105-66

ACC NR: AP6017406 SOURCE CODE: UR/0122/65/000/008/0040/0041

AUTHOR: Borisoglebskiy, A. K. (Engineer); Kuz'min, R. V. (Engineer); Vasil'yev, Yu. V. (Engineer)

35
33
B

ORG: none

TITLE: Stand for determining the frequency of the normal mode of a gas column in interstage compressor lines

SOURCE: Vestnik mashinostroyeniya, no. 8, 1965, 40-41

TOPIC TAGS: white noise, noise generator, noise analyzer, tape recorder, electronic amplifier/ZG-10 noise generator, MAG-8 tape recorder, UNCh 50W electronic amplifier, MIU electronic amplifier

ABSTRACT: The frequency of natural oscillations of the gas column in interstage compressor lines is determined chiefly by the geometric characteristics of the lines and the volumes connected by them. Therefore an acoustic method may be used for determining this parameter. This requires excitation of acoustic vibrations by a special radiator placed at the end of one of the lines with receivers at various points on the line where the gas column is in oscillation. The authors describe a stand developed for this purpose.

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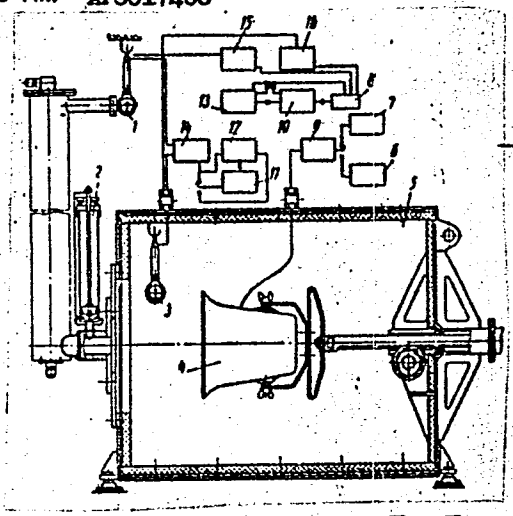
Card 1/2 UDC: 62-119:621.512.001.5

2710?-66

ACC NR: AP6017406

2



Stand for acoustic tests of interstage compressor lines in the 40-300 cps frequency range: 1 and 3--MD 36-B microphone; 2--buffer space; 4--dynamic loudspeaker; 5--sonic radiation chamber; 6--ZG-10 sound generator; 7--white noise generator or MAG-8 tape recorder; 8--UNCh 50 W amplifier; 10 and 11--automatic recorder; 12 and 13--analyzer; 14--MIU multichannel measurement amplifier; 15 and 16--phonometers.

Orig. art. has: 1 figure. [JPRS]

SUB CODE: 09 / SUBM DATE: none

Card 2/2

(A) L 8503-66

ACC NR: AP5028550 SOURCE CODE: UR/0286/65/000/020/0163/0163

AUTHORS: Borisoglebskiy, A. I.; Bulychev, F. V.; Kreps, L. I.; Ryvkin, L. S.; Tsentsiper, M. L. 44,55 44,55 44,55 44,55 44,55

36 13

ORG: none

TITLE: Accumulating fuel pump. Class 46, No. 166199

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 163

TOPIC TAGS: engine fuel pump, engine fuel system, engine component, internal combustion engine 10,44,55

ABSTRACT: This Author Certificate presents an accumulating fuel pump for internal combustion engines (such as free piston engines). The pump contains a case with coaxially placed cartridges, each of which carries a plunger with curved dosing and conveying rims and a counterplunger connected to the piston of the accumulator. To lower the cost and improve the performance, the counterplunger is provided with an internal cutoff duct connecting the aperture between the plungers to the low pressure zone through a duct in the plunger. The plunger may also contain a duct for feeding fuel to the atomizer.

SUB CODE: 21/ SUBM DATE: 16Jun62

Card 1/1 UDC: 621.43.038.5

2

L 20926-66 EWT(d)/EWT(l)/EWT(m)/EWP(f)/EPF(n)-2/T-2/ETC(m)-6 WW

ACC NR: AP6002578 (A) SOURCE CODE: UR/0286/65/000/023/0071/0071

AUTHORS: Bulychev, F. V.; Borisoglebskiy, A. I.; Ryvkin, L. S.

ORG: none

TITLE: Fuel pump for free-piston diesel compressors. Class 46, No. 176751

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1965, 71

TOPIC TAGS: engine fuel pump, compressor

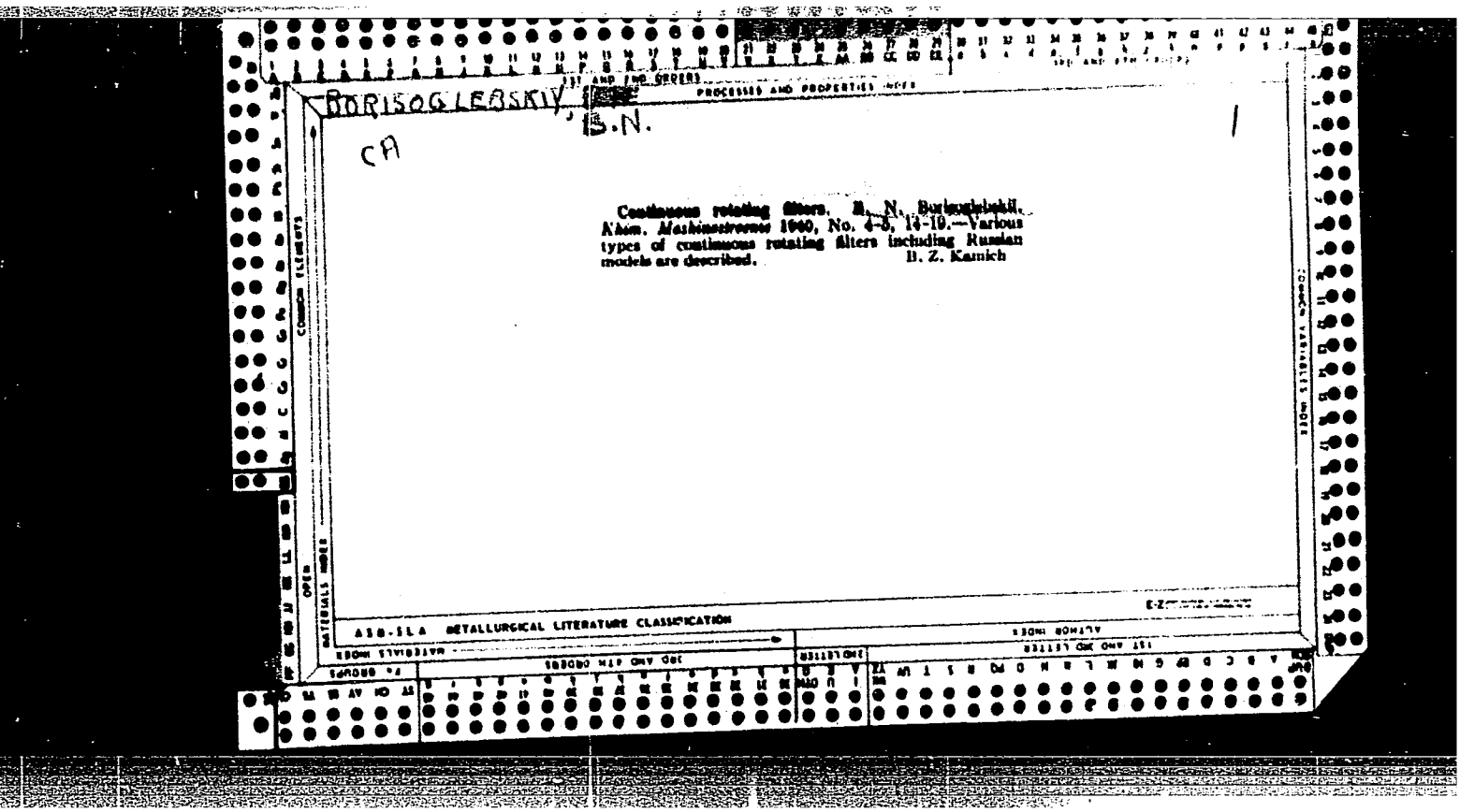
ABSTRACT: This Author Certificate presents a fuel pump for free-piston diesel compressors with spring drive of the pump plunger. To simplify the design, a piston is mounted between the plunger and the spring. The space beneath the piston is connected through an automatic intake valve to the compressor cavity of the diesel compressor and through an exhaust valve to the atmosphere. For automatic injection control, a gas plunger is used. This plunger is connected to the diesel cavity of the diesel compressor and is coupled to the exhaust valve.

SUB CODE: 13, 21/ SUBM DATE: 20Jul62

Card 1/1 FW

CHUPAKHIN, Vasiliy Mikhaylovich; BORISOGLEBSKIY, Aleksey Gennadiyevich; DORMENKO, V.V., spetsred.; POLUNINA, Ye.M., red.; FOMMALINA, Ye.A., tekhn.red.

[Operation of fish processing equipment on BMRT type boats] Ekspluatatsiia ryboobrabatyvaiushchego oborudovaniia na BMRT. Moskva, Vses.nauchno-issledovatel'skii in-t morskogo rybnogo khoz. i okeanografii, 1959. 54 p. (MIRA 13:9)
(Fisheries--Equipment and supplies)



BORISOGLEBSKIY, B.N.

CA

Continuous rotating filters. B. N. Borisoglebskii. *Khim. Mashinostroenie* 1960, No. 4-5, 14-19.—Various types of continuous rotating filters including Russian models are described. B. Z. Kanich

BORISOGLEBSKIY, B.N., inzhener; MINKOV, V.P., inzhener, VEKSLER, G.M. inzhener, MIKHLIN, Ye.L.; SALAMATOV, I.I. inzhener, redaktor; STUPIN, A.K., redaktor; TIKHONOV, A.Ya., tekhnicheskiy redaktor

[Centrifuges; a catalog and reference book] TSentrifugi; katalog-spravochnik. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1955. 90 p. (MLRA 8:11)

1. Russia(1923- U.S.S.R.)Ministerstvo mashinostroyeniya i pribo-rostroyeniya.
(Centrifuges)

BORISOGLEBSKIY, B.N., inzhener; GRISHINA, L.S., inzhener; KOBYASHOVA, T.V., inzhener; SALAMATOV, I.I., inzhener, redaktor; STUPIN, A.K., redaktor; POPOVA, S.M., tekhnicheskiy redaktor.

[Filters; a catalog and handbook] Fil'try; katalog-spravochnik. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1955. 127 p. (MLRA 9:6)

1.Russia (1923- U.S.S.R.) Ministerstvo mashinostroeniya i priborostroyeniya.

(Filters and filtration)

KUTSEV, S.S.; KUZIN, V.A.; NOVIKOV, V.A.; BORISOGLEBSKIY, B.N.

Pilot plant testing of the purification of diffusion juice by a suspension of colloidal calcium carbonate with the use of separators. Sakh. prom. 33 no.2:31-34 F '59. (MIRA 12:3)

1. Nauchno-issledovatel'skiy i konstruktorskiy institut khimicheskogo mashinostroyeniya.

(Sugar research)

KUTSEV, S.S.; KUZIN, V.A.; NOVIKOV, O.P.; BORISOGLEBSKIY, B.N.

Comparative test data of industrial and pilot plant purification of diffusion juice. Sakh.prom. 33 no.7:76 Jl '59.
(MIRA 12:11)

(Sugar manufacture)

BORISOGLEBSKIY, B.N., inzh.

Processes and units for the mechanical separation of nonhomogeneous liquid systems. Khim.mash. no.3:42-46 My-Je '61. (MIRA 14:5)
(Separators (Machines))

BORISOGLEBSKIY, B.N., kand.tekhn.nauk

Present state and prospects for the development of the manufacture of filters in the U.S.S.R. Khim.mashinostr. no.4:1-4 Jl-Ag '63. (MIRA 16:9)

(Filters and filtration)

BORISOGLEBSKIY, B.N., kand. tekhn. nauk, red.; USOL'TSEVA, M.I., red.

[Manufacture of centrifuges in the U.S.S.R.; collection of reports at the united session of the All-Union Scientific Research Institute of Chemical Machinery, the Ukrainian Scientific Research Institute of Chemical Machinery, and of the technical council of the Sumy Machinery Plant] TSentrifugostroenie v SSSR; sbornik dokladov na ob"edinennoi sessii nauchno-tekhnicheskikh sovetov Niikhimmasha, Ukrniikhimmasha i tekhnicheskogo soveta Ordena Lenina Sumskogo mashinostroitel'nogo zavoda im. M.V.Frunze. Moskva, Otdel nauchno-tekhn. informatsii, 1963. 277 p. (MIRA 17:11)

BORISOGLEBSKIY, B.N., kand. tekhn. nauk, red.; VINOGRADOV, Yu.M., kand. tekhn. nauk, red.; GALITSKIY, B.A., red.; GORYAINOVA, A.V., kand. tekhn. nauk, red.; ZHEREBTSOV, A.N., red.; KORETSKIY, I.M., red.; MAKAROVA, N.S., red.; MORDOVSKIY, S.I., kand. tekhn. nauk; SALAMATOV, I.I., doktor tekhn. nauk; SHVARTS, G.L., kand. tekhn. nauk, red.; YUKALOV, I.N., kand. tekhn. nauk, red.; YUSOVA, G.M., kand. tekhn. nauk, red.; VASIL'YEVA, G.N., red.

[Manufacture of filters in the U.S.S.R.; collection of reports at the united session of the scientific and technical councils of the All-Union Scientific Research Institute of Chemical Machinery, the Ukrainian Scientific Research Institute of Chemical Machinery and the technical council of the Ural Chemical Machinery Plant] Fil'trostroenie v SSSR; sbornik dokladov na ob"edinennoi sessii nauchno-tekhnicheskikh sovetov Niikhimmasha, Ukrniikhimmasha i tekhnicheskogo soveta zavoda "Uralkhimmash." Moskva, Otdel nauchno-tekhn. informatsii, 1963. 107 p. (MIRA 17:12)

1. Nauchno-issledovatel'skiy institut khimicheskogo mashinostroyeniya (for Borisoglebskiy, Mordovskiy).

KOBLIKOV, Aleksandr Semenovich; MAZALOV, Anatoliy Gavrilovich; SMOL'NIKOV, Viktor Yevgen'yevich; BORISOGLEBSKIY, B.V., general-leytenant yustitsii, red.; LEVINA, M.M., red.; TIMOFEYEVA, N.V., tekhn. red.

[Scientific and practical commentary on the regulation concerning military trubunals] Nauchno-prakticheskiikommentarii i polozheniiu o voennykh tribunalakh. Pod red. i s predisl. V.V.Borisoglebskogo. Izd.2., ispr. Moskva, Gos.izd-vo iurid.lit-ry, 1961. 78 p. (MIRA 14:12)

1. Predsedatel' Voyennoy kollegii Verkhovnogo Suda SSSR (for Borisoglebskiy).

(Courts-martial and courts of inquiry)

BORISOGLEBSKIY, G., inshener, avtor proyektov; KOLOSOV, I., inshener, avtor proyektov.

New plans for machine-tractor station repair shops. Sel'.stroi.8 no.6:15-16 N-D '53. (MLRA 6:11)

1. Giprosel'khoz Ministerstva sel'skogo khozyaystva SSSR.
(Machine-tractor stations)

BORISOGLEBSKIY, G.

Repair shops for the fields. Tekh.mol. 21 no.12:6-7 D '53. (MLRA 6:11)

1. Glavnyy inzhener proyekta Giprosel'khoza. (Machine-tractor stations)

BORISOGLEBSKIY, G., inzhener.

New standardized plans for machine tractor station shops for the repair of tractors, automobiles and agricultural machinery. Avt.transp. 32 no.2:23-25 F '54. (MLRA 7:6)
(Automobiles--Repairing) (Tractors--Repairing) (Agricultural machinery--Repairing)

BORISOGLEBSKIY, G. I.

Agrometeorological conditions causing the destruction of winter crops in early spring. Trudy TSIP no.47:74-85 '56. (MLRA 10:2)

(Crops and climate)

BORISOGLEBSKIY, G. I., Cand of Geog Sci -- (diss) "Agrometeorological conditions, which evoke rotting of winter crops during the early spring period." Moscow, 1957, 10 pp (Main Adm of Hydrometeorlogical Services under Council of Ministers USSR, Central Institute of Weather Forecasting), 100 copies (KL, 30-57, 108)

AUTHOR: Borisoglebskiy, G. I. 50-2-7/22

TITLE: Determination of Vitality of Winter Crops According to the Analysis of the State of the Cone of Growth (Opredeleniye zhiznesposobnosti ozimykh po analizu sostoyaniya konusa narastaniya).

PERIODICAL: Meteorologiya i Gidrologiya, 1958, Nr 2, pp. 32-33 (USSR)

ABSTRACT: In winter 1955/56 a considerable weakening and extinction of the winter crops was observed in a number of districts of the European part of the USSR.
Samples of plants from the test-districts were sent to the Central Institute for Prognosesdetermination of the state of the winter crop. There were 373 samples from 162 points.

By means of these samples the degree of damage done to the plants was determined by means of analysis of the cone of growth. On the basis of these observations a decision was given on the state of the crops. Analysis of samples was carried out according to the method suggested by professor F. M. Kuperman.
For the analysis of each sample sent in 5 plants were used

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and each shoot of these 5 plants was separately examined. According to the number of the damaged shoots the state of the crop was evaluated according to a system comprising 5 degrees of estimation:

if all shoots are alive	-5 degrees
if 25% of the shoots were damaged	-4 degrees
if 26-75% of the shoots were damaged	-3 degrees
if more than 75% of the shoots were damaged	-2 degrees
if all shoots perished	-1 degree

The results of the analysis of samples of winter crops were compared according to this method to the results of germing of "monolites" and of spring examination. On the occasion of comparison only such cases were taken into consideration where it could be found according to the data available that the growing of the sample of the "monolite" and the spring investigation were carried out in the same test-district.

Card 2/3 The data of the growing of the "monolite" and of the spring

investigation as well as the results of the analysis of the cone of growth were estimated uniformly according to the system of 5 degrees.
Since, however, in the case of "monolites" not the number of the perished shoots but the number of the plants stunted in growth are given the estimation of the degree of the state of the crop was carried out according to the number of the perished plants.- The comparison of the degrees of estimation of the state of the winter crop resulting in the growth of the "monolites" to the results of the spring investigation has shown in 29 out of 48 cases (60 %) that the estimations agreed. 19 cases (40 %) showed a difference of the degree of estimation of which the "monolite"-method showed 13 cases (27%) of too high estimation. Therefore it can be concluded that the determination of the state of the winter crop according to the analysis of the cone of growth makes possible a more precise estimation than the "monolite-method", results, however, are obtained more quickly.

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Card 3/3

GOL'TSBERG, I.A., doktor geogr. nauk; VERIGO, S.A., kand. sel'khoz. nauk; SINEL'SHCHIKOV, V.V., kand. sel'khoz. nauk; BORISOGLEBSKIY, G.L., kand. geogr. nauk; OKUSHKO, A.A., kand. geogr. nauk; RUDNEV, V.M., kand. geogr. nauk; DAVITAYA, F.F., akademik, otv. red.; ZHDANOVA, L.P., red.; ALEKSEYEV, A.G., tekhn. red.

[Evaluation of the agroclimatic conditions of farm lands] Otsenka agroklimaticheskikh uslovii sel'skokhoziaistvennykh polei. Leningrad, Gidrometeor.izd-vo, 1961. 75 p. (MIRA 15:2)

1. Akademiya nauk Gruzinskoy SSR (for Davitaya).
(Crops and climate)

BORISOGLEBSKIY, G.I.; KULIKOV, V.A.; MOGILA, L.Ye.

Dust storms in the south of the European part of the U.S.S.R. in the summer of 1960. Meteor.i gidrol. no.5:29-33 My '61. (MIRA 14:4)
(Russia, Southern--Dust storms)

OKUSHKO, A.A.; BORISOGLEBSKIY, G.I.

Theoretical basis for the technique of snow surveys in fields with snow-retaining barriers. Trudy TSIP no.107:23-29 '61. (MIRA 14:5)
(Snow surveys)

BORISOGLEBSKIY, G.I.

Germination of grain in mows of stage-harvested wheat and its relation to basic agrometeorological factors. Trudy TSIP no.107:30-34 '61. (MIRA 14:5)

(Siberia, Western—Wheat—Harvesting)
(Kazakhstan—Wheat—Harvesting) (Meteorology, Agricultural)

BORISOGLEBSKII, L. A.

Influence of the magnetic moment of the nucleus on the intensity of forbidden transitions in the mercury atom. L. A. Borisoglebskii. *Uchenie Zapiski Belorussk. Gosudarst. Univ. im. V.I. Lenina, Ser. Fiz.-Mat.* 1934, No. 19, 172–222.—Formulas are derived for the intensities of the lines in the ultrafine structure of the Hg spectrum, on the assumption that the Russell-Saunders coupling holds for the at. system of Hg. The math. derivation starts with an equation of Dirac's, and expressions are developed for the forbidden transitions $6s6p\,^3P_0 \rightarrow 6s^2\,^1S_0$ and $6s6p\,^3P_2 \rightarrow 6s^2\,^1S_0$ for the two cases of an isotope with spin $^1/_2$ and an isotope with spin $^3/_2$.

V. H. Gottschalk

LEVINSHTEYN, L. M.

"The Electron in a Homogeneous Magnetic Field," Uch. zap. Leningr. un-ta, No 19, 1954, pp 243-245

The author shows that the problem of finding the energy levels of an electron in a magnetic field may be solved by using as basic integrals of motion the operators H, P_z, and $M_z = xp_y - yp_x + \frac{1}{2} + \sigma_z$ (RZhFiz, No 7, 1955) SO: Sum.No.743, 7 Nov 55

BORISOGLEBSKIY, L.A.

Theory of free particles described by infinite-dimensional equations. Uch.zap.BGU no.32:121-151 '57. (MIRA 11:12)
(Particles)

BORISOGLEBSKIY, L.A.

Particle, described by infinite-dimensional equations, in a uniform magnetic field. Uch.zap.BGU no.32:153-168 '57.
(MIRA 11:12)

(Particles)

BORISOGLEBSKIY, L.A.

Effect of the magnetic nucleus on forbidden transitions in atoms of divalent elements. Uch. zap. BGU no.41:71-86 '58. (MIRA 12:3)

(Spectrum, Atomic)

AUTHOR: Borisoglebskiy, L. A. SOV/53-66-4-4/10

TITLE: Forbidden Lines in Atomic Spectra (Zapreshchennyye linii v atomnykh spektrakh)

PERIODICAL: Uspekhi fizicheskikh nauk, 1958, Vol 66, Nr 4, pp 603-652 (USSR)

ABSTRACT: In the present paper the author gives a comprehensive survey of the present stage of atomic spectra investigations especially with respect to forbidden lines. The results of 166 theoretical and experimental publications are taken into account. The author first explains the term "forbidden lines" (lines emitted through transitions which are not subject to the selection rules), he then discusses the identification of the lines and criticizes the term "forbidden". Chapter I of this paper deals with spontaneous forbidden lines. The observation of intensive forbidden lines in the star spectra made it necessary to develop a quantum theory of multipole radiation and led to a detailed investigation of the electric quadrupole and magnetic dipole transitions to which almost all multipole lines of the atomic spectra belong ("forbidden"lines). For this reason mainly multipole emissions of this class are dealt with in this paper. According to reference 4, formulae for the intensity of these

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lines are given as well as the possible ΔJ and Δm, ΔL, and ΔS (denotations are the usual ones) for electric quadrupole and magnetic dipole transitions as well as for 2^k pole transitions (electric and magnetic) in general. The relations mentioned are then discussed. Furthermore, the probabilities of forbidden transitions are discussed in detail as well as the theory of the Zeeman effect which is of great importance for the investigation of the multipole lines. The results obtained are listed in a table. Moreover, the author deals with weak (anomalous Zeeman effect) and strong magnetic fields with respect to their effect on multipole radiation, problems of interference and hyperfine structure. Chapter II: Multipole radiation of atoms: The various existing types of multipole radiation, the general properties of the multipoles with examples of their main forms, and the multiplet structure of quadrupole lines are discussed. The following chapter deals in detail with the forbidden lines in the spectra of celestial bodies (nebulae, solar corona, novae etc.). The range of wave lengths investigated extends from 3,000 to 10,000 Å. The electron systems of a number of metastable stages are especially discussed (the knowledge of the

difference between the metastable level and the ground level makes it possible to predict the possible forbidden lines): single electron systems (HI, HeII, LiIII etc.), two-electron systems (HeI, LiII, BeIII etc.), three-electron systems (LiI, BeII, BIII etc.) up to 16-electron systems (SI, CIII, AIII, KIV, CaV etc.); the individual examples and the probabilities of transition are discussed. In conclusion, the reactions considered to be very probable in the case of excitation of the ^1S_o - and ^1D_o of oxygen (metastable) are given (according to results obtained by rocket experiments, Krasovskiy, reference 123). The fourth and last chapter deals with the forbidden lines which are enforced by various fields. Two types are distinguished: 1) lines the maximum intensity of which is at low current densities and which show a decrease of intensity with increasing current (spontaneous emission); 2) lines the intensity of which increases with the square of the current density (emission enforced by ion fields). Conditions are discussed in detail on the basis of numerous examples. There are 5 figures,

S/051/62/013/001/001/019
E032/E114

AUTHOR: Borisoglebskiy, L.A.

TITLE: Effect of the nuclear quadrupole moment on forbidden transitions in hydrogen-like atoms

PERIODICAL: Optika i spektroskopiya, v.13, no.1, 1962, 3-11

TEXT: The effect of the nuclear quadrupole moment is estimated on the basis of the non-relativistic perturbation theory. The first section is concerned with selection rules for transitions induced by magnetic and quadrupole interactions. It is shown that the selection rules for induced electric dipole transitions are

$$\Delta j = 0, \pm 1; \pm 2; \quad \Delta \ell = \pm 1, \pm 3; \quad \Delta f = 0, \pm 1; \quad f_1 + f_2 \geqslant 1;$$

$$\Delta m_f = 0, \pm 1 \qquad (8)$$

in the case of magnetic interactions and

$$\Delta j = 0, \pm 1, \pm 2, \pm 3; \quad j_1 + j_2 \geqslant 1; \quad \Delta \ell = \pm 1; \pm 3; \quad \Delta f = 0, \pm 1;$$

$$f_1 + f_2 \geqslant 1; \quad \Delta m_f = 0, \pm 1 \qquad (9)$$

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in the case of quadrupole interactions. It is noted that these selection rules differ not only from the spontaneous electric dipole transitions, but also from the selection rules for spontaneous multipole emission. The selection rules are derived by finding the values of Δj for which the matrix elements of the perturbation operator have non-zero values. It is also shown that the selection rules for induced electric quadrupole emission are

$$|\Delta j| \leqslant 3,\ j_1 + j_2 \geqslant 1;\quad \Delta \ell = 0, \pm 2, \pm 4;\quad |\Delta f| \leqslant 2;\quad f_1 + f_2 \geqslant 2;$$
$$|\Delta m_f| \leqslant 2 \qquad (10)$$

in the case of magnetic interactions and

$$|\Delta j| \leqslant 4;\quad j_1 + j_2 \geqslant 2;\quad \Delta \ell = 0, \pm 2, \pm 4;\quad |\Delta f| \leqslant 2;\quad f_1 + f_2 \geqslant 2;$$
$$|\Delta m_f| \leqslant 2 \qquad (10')$$

in the case of quadrupole interactions. Finally, the selection rules for magnetic dipole emission are

$|\Delta j| \leqslant 2$; $\Delta f = 0, \pm 2$; $|\Delta f| \leqslant 1$; $f_1 + f_2 \geqslant 1$; $|\Delta m_j| \leqslant 1$ (11)

in the case of magnetic interactions, and

$|\Delta j| \leqslant 3$; $j_1 + j_2 \geqslant 1$; $\Delta \ell = 0, \pm 2$; $|\Delta f| \leqslant 1$; $f_1 + f_2 \geqslant 1$;

$|\Delta m_j| \leqslant 1$ (11')

in the case of quadrupole interactions.
The second section is concerned with the calculation of the relative and absolute probabilities of forbidden dipole transitions. A detailed calculation is given (to illustrate the general approach) in the case of the series of forbidden transitions

$$n^2D_{5/2} \rightarrow 2^2P_{1/2}$$

induced by nuclear moments in the case of nuclei with spin 1. It is shown that

$$\frac{A\ (n^2D_{5/2} \rightarrow 2^2P_{1/2})}{A\ (n^2D_{3/2} \rightarrow 2^2P_{1/2})} = 0.6 \cdot 10^{-4} \qquad (25)$$

Effect of the nuclear quadrupole... S/051/62/013/001/001/019
E032/E114

It is stated that the present results may be extended to the spectra of monovalent atoms and to X-ray spectra. The generalization will involve the replacement of the atomic number Z by the effective atomic number, i.e. it will be necessary to allow for screening effects.

SUBMITTED: May 30, 1961

Card 4/4

BORISOGLEBSKIY, L.A.

EO-conversion on the outer atom shells. Vest. Mosk. un. Ser. 3:Fiz., astron. 18 no.5:74-79 S-O '63. (MIRA 16:10)

1. Kafedra elektrodinamiki i kvantovoy teorii Moskovskogo gosudarstvennogo universiteta.

BORISOGLEBSKIY, L.A.

Monopolar transitions of atomic nuclei. Usp. fiz. nauk 81 no.2:271-334 O '63. (MIRA 16:12)

ACCESSION NR: AP4037580 S/0056/64/046/005/1664/1676

AUTHOR: Borisoglebskiy, L. A.

TITLE: Internal conversion coefficients for strongly forbidden Gamma transitions in nuclei

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 5, 1964, 1664-1676

TOPIC TAGS: Gamma radiation, internal conversion, matrix function, forbidden transition, nuclear shell model

ABSTRACT: In view of the fact that the ratios of the conversion intranuclear matrix elements to the radiation matrix element (these ratios enter into the expression for the internal conversion coefficient) can be represented as a sum of products of two factors, one of which (the electronic factor) must usually be determined by numerical methods, the author derives and investigates approximate analytic expressions for the electronic factors of the nuclear para-

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ACCESSION NR: AP4037580

meters in the theory of internal conversion of strongly forgidden γ radiation. This approximate expression is suitable for the calculation of structural corrections to the internal conversion coefficient on arbitrary subshells and shells of the atom. A connection is established between the relative internal conversion coefficients and the relative probabilities of EO conversion at very strongly forbidden γ transitions of nuclei. In the case of very strong γ-forbiddenness, the internal conversion coefficients may be determined only by the structural factor, and in such case some agreement with the experimental data may be obtained. Orig. art. has: 32 formulas and 5 tables.

ASSOCIATION: Belorusskiy gosudarstvenny*y universitet (Belorussian State University)

SUBMITTED: 21Jul63 DATE ACQ: 09Jun64 ENCL: 00

SUB CODE: NP NR REF SOV: 008 OTHER: 008

Card 2/2

BORISOGLEBSKIY, L.A.

Internal conversion coefficients for highly forbidden gamma transitions in nuclei. Zhur. eksp. i teor. fiz. 46 no.5: 1664-1676 My '64. (MIRA 17:6)

1. Belorusskiy gosudarstvennyy universitet.

L 14306-65 EWT(1)/EWT(m) DIAAP/IJP(c)/ASD(a)-5/AS(mp)-2/ESD(t)
ACCESSION NR: AP4047925 S/0056/64/047/004/1575/1580

AUTHOR: Borisoglebskiy, L. A.

TITLE: Effect of the surface layer and deformation of the nucleus on the reduced E0 conversion probability

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 4, 1964, 1575-1580

TOPIC TAGS: electron wave, wave function, nuclear surface, nuclear charge, nuclear compressibility, electron conversion

ABSTRACT: The purpose of this study was to ascertain the degree to which the use of more exact electron wave functions (which take into account the uneven distribution of the charge on the nuclear surface), as well as the deformation and compressibility of the nucleus, affect various processes that depend on the electron wave functions, especially the E0 conversion probability. To this end the dependence of

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L 14306-65
ACCESSION NR: AP4047925

the reduced probability of the electron E0 conversion is investigated as a function of the various parameters that define the thickness of the surface layer and the nuclear deformation. The results indicate that a noticeable change can be brought about by the improvement in the wave functions, although in some cases the changes are quite small. Orig. art. has: 22 formulas and 4 tables.

ASSOCIATION: Belorusskiy gosudarstvenny*y universitet (Belorussian State University)

SUBMITTED: 30Apr64 ENCL: 00

SUB CODE: NP NR REF SOV: 007 OTHER: 007

Card 2/2

BORISOGLEBSKIY, L.A.

Absolute (reduced) and relative probabilities of EC-conversion.
Izv. AN SSSR. Ser. fiz. 29 no.5:868-871 My '65. (MIRA 18:5)

1. Belorusskiy gosudarstvennyy universitet.

L 51313-65 EWT(m) Peb DIAAP UR/0056/65/0048/005/1347/1351

ACCESSION NR: AP5013893

AUTHOR: Borisoglebskiy, L. A.

TITLE: Internal conversion coefficients on the atomic M-shell

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 5, 1965, 1347-1351

TOPIC TAGS: internal conversion, internal conversion coefficient

ABSTRACT: Numerical values are presented for the internal coefficients on M_I, M_{II}, and M_{III} atomic subshells for M1, M2, E1, and E2 nuclear transitions. The values were obtained by numerical integration of the Dirac differential equation, in which the effect of the finite size of the nuclei and screening by the Thomas-Fermi-Dirac (Z = 81) and Hartree (Z = 80) methods were taken into account. An investigation made under the assumption that on the M and L shells the dependence of the internal conversion coefficient (ICC) on Z is the same showed that the difference between values for ICC calculated according to Hartree screening and those calculated according to Thomas-Fermi-Dirac screening was much greater than would be indicated by the difference in Z numbers. A comparison of the theoretical relative ICC of

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L 51313-65

ACCESSION NR: AP5013893

the M-shell for Z = 80 with the experimental showed that agreement was better when screening was taken into account. The influence of screening on the relative ICC was much weaker than on the absolute ICC. Orig. art. has: 5 formulas and 3 tables. [JA]

ASSOCIATION: Belorusskiy gosudarstvennyy universitet (Belorussian State University)

SUBMITTED: 31Oct64	ENCL: 00	SUB CODE: NP	
NO REF SOV: 005	OTHER: 011	ATD PRESS: 4016	

Card 2/2

L 3175-66 EWT(m)/EWP(t)/EWP(b) DIAAP/IJP(c) JD

ACCESSION NR: AP5013997 UR/0048/65/029/005/0868/0871

AUTHOR: Borisoglebskiy, L.A.

TITLE: Absolute (reduced) and relative probabilities for E0 conversion /Report, 15th Annual Conference on Nuclear Spectroscopy and the Structure of the Atomic Nucleus held in Minsk, 25 Jan-2 Feb 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.29, no.5, 1965, 868-871

TOPIC TAGS: internal conversion, terbium, mercury, thallium, uranium

ABSTRACT: Reduced M- and N-shell E0-conversion probabilities were calculated for several heavy atoms. The calculations were undertaken because accurate experimental data are beginning to appear. Fifty-five of the 96 reduced probabilities for E0 conversion of M_I, M_{II}, N_I and N_{II} electrons of atoms with atomic numbers 65, 80, 81 and 92 in transitions of energies 0.05, 0.1, 0.2, 0.5, 1 and 2 atomic units were calculated and are tabulated. Fermi-Thomas-Dirac wave functions were used in all the calculations except those for Hg, in which Har-

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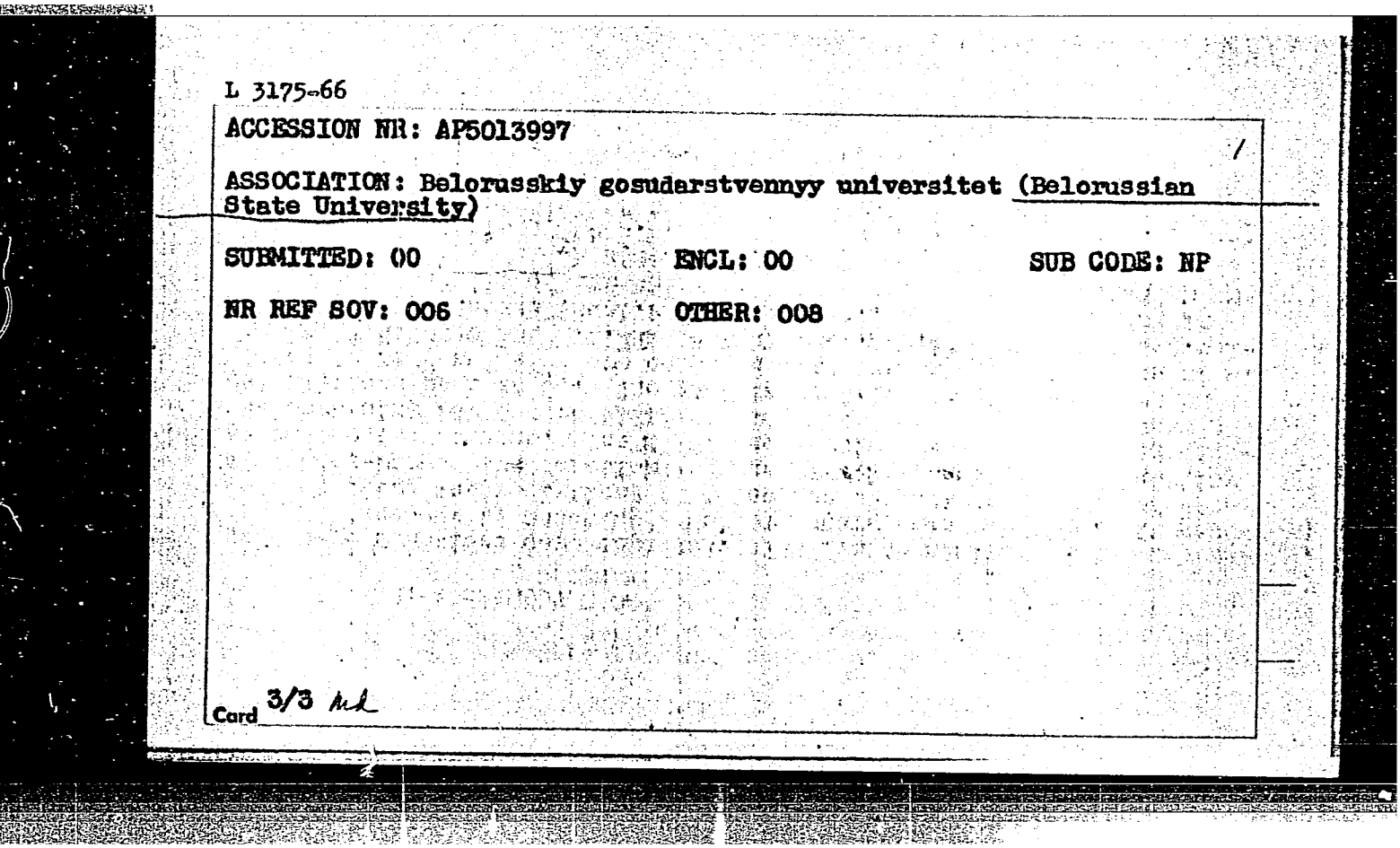
ACCESSION NR: AP5013997

tree wave functions were employed. The finite nuclear radius was taken into account by assuming a uniform charge distribution. It was estimated (by interpolation) that the use of Hartree instead of Fermi-Thomas-Dirac wave functions changed the M_I conversion probability by one or two percent. The M_I/M_{II} conversion ratios calculated without screening for Z = 92 differed from the results of the present calculations by 3 to 6%. The calculated K/(L+M+N) EO-conversion ratios in Zr^{90} and U^{234} are compared with the experimental data of M. Nessin, T.H.Kruse and K.E.Eklund (Phys.Rev.125,639,1962) and C.J.Gallagher and T.D.Thomas (Nucl.Phys.14,1,1955), and good agreement is shown. Some details of the calculation procedure are discussed in an appendix. "I express my sincere gratitude to E.M.Andersonn, head of the computation group, to E.K.Andersonn and V.F.Trusov, and also M.A. Listengarten of the NIEI of the LGU for providing corrected tables of the F-T-D screening function." Orig.art.has: 9 formulas and 6 tables.



L 3175-66

ACCESSION NR: AP5013997

ASSOCIATION: Belorusskiy gosudarstvennyy universitet (Belorussian State University)

SUBMITTED: 00 ENCL: 00 SUB CODE: NP

NR REF SOV: 006 OTHER: 008

Card 3/3 ml

L 07272-67 EWT(1) IJP(c) AT

ACC NR: AP6025274 SOURCE CODE: UR/0188/66/000/003/0009/0016

40
B

AUTHOR: Borisoglebskiy, L. A.

ORG: Department of Electrodynamics and Quantum Theory , Moscow State University (Kafedra elektrodinamiki i kvantovoy teorii, Moskovskiy gosudarstvennyy universitet)

TITLE: Angular distribution of internal conversion electrons in the case of strong gamma hindrance

SOURCE: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 3, 1966 9-16

TOPIC TAGS: conversion electron spectrum, gamma transition, angular distribution, gamma transition, wave function, multipole order, surface property

ABSTRACT: The authors investigate the anisotropy in the angular distribution of the conversion electrons in strongly forbidden M1 and E1 transitions of oriented nuclei, as functions of the nuclear parameters andwith account taken of the influence of the surface layer and the deformation of the nucleus on the wave functions of the electron. The coefficients of the correlation function describing the angular distribution of the conversion electrons relative to the direction of the

Card 1/2 UDC: 539.124

L 07272-67

ACC NR: AP6025274

initial angular momentum are determined for both magnetic and electric transitions, and the finite size of the nucleus is taken into account for magnetic transitions. The analytic procedure for determining the coefficients was presented by the author earlier (ZhETF v. 46, 1654, 1964), and the allowance for the finite dimensions of the nuclei is by the method given in a different paper (ZhETF v. 47, 1575, 1964). Plots of the essential coefficients show that the influence of the surface layer and of the nuclear deformation on the electronic factors is negligible for normal unhindered gamma transitions, but must be taken into account in strong hindrances. This difference can be used both to identify strongly forbidden gamma transitions of oriented nuclei, and for a more accurate determination of nuclear parameters from experimental data by using the angular distribution of the conversion K electrons. Specific calculations for Z = 64 and Z = 92 are tabulated. Orig. art. has: 4 figures, 15 formulas, and 2 tables.

SUB CODE: 20/ SUBM DATE: 20Jul64/ ORIG REF: 008 / OTH REF: 008

Card 2/2 pla

L 23753-66 EWI(m) DIAAP

ACC NR: AP6008111 SOURCE CODE: UR/0139/66/000/001/0054/0059

AUTHORS: Borisoglebskiy, L. A.; Davydova, G. V. 27

ORG: Belorussian State University im. V. I. Lenin (Belorusskiy gosudarstvennyy universitet) B

TITLE: Effect of finite dimensions of nuclei and the screening factor in the theory of E0 conversion and 'structural internal conversion coefficients'

SOURCE: IVUZ. Fizika, no. 1, 1966, 54-59

TOPIC TAGS: conversion electron spectrum, fine structure, transition probability, nuclear cross section, nuclear shell model

ABSTRACT: In view of the fact that earlier corrections to the theoretical relative and absolute probabilities of E0 conversion were limited to the effects of finite nuclear dimensions and to screening, and were confined essentially to corrections to absolute but not to relative probabilities, the authors investigate the effects of the finite dimensions of the nucleus, the allowance for terms of the

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L 23753-66
ACC NR: AP6008111

order of αZR and pR (α = fine-structure constant, Z and R the charge and radius of the nucleus, and p is the conversion-electron momentum in the final state of the continuous spectrum), which are neglected in the analytic relations. The corrections for the nuclear size and for the αZR and pR terms are found to be negligible. The greatest correction to the relative probability is found to be due to screening. In the case when Z is sufficiently large, it is found that net result of all the corrections is small, and particularly since some can cancel others. The authors investigated also corrections to the relative 'purely structural' internal conversion coefficients, calculated in the approximation of the pointlike nucleus. These are found to reach as much as 10% in some cases. The screening calculations are made difficult by the fact that in the case of the higher shells there are still no exact values of the quantities required for the calculations. Orig. art. has: 4 figures and 10 formulas.

SUB CODE: 20/ SUBM DATE: 11May64/ ORIG REF: 007/ OTH REF: 005

Card 2/2

BORISOGLEBSKIY, Lev L'vovich; NEYMAN, M.I., red.

[When medicine becomes business; essays on contemporary American medicine] Kogda meditsina - biznes; ocherki sovremennoi amerikanskoi meditsiny. Moskva, Meditsina, 1964. 86 p. (MIRA 17:6)

BORISOGLEBSKI, Mikhail Vasil'evich, 1896-

The paper industry institute. Risunki G. Vereiskogo. Leningrad Izd-vo pisat. 1931 174 p.

BORISOGLEBSKIY, P. V.

"Physical Principles and Preservation of Industrial Insulation" (Fizicheskiye osnovy i metody profilaktiti promyshlennoy izolyatsii), Gosenergoizdat, 1949, 190 pp.

BORISOGLEBSKIY P.V.

ALMAZOV, A.V.; BORISOGLEBSKIY, P.V.; GORODETSKIY, S.S.; DMOKHOVSKAYA, L.V.; PANOV, A.V.; SIROTINSKIY, L.I., professor, redaktor

[High tension technology] Tekhnika vysokikh napriazhenii. Pod obshchei red. L.I.Sirotinskogo. Moskva, Gos. energeticheskoe izd-vo. Pt. 2. 1953. 240 p. (MLRA 7:7)
(Electric insulators and insulation)

BORISOGLEBSKIY, P.V., kandidat tekhnicheskikh nauk; SVI, P.M., inzhener.

Detecting damaged insulators with defectoscopes. Elek.sta. 24 no.9:44-46 S '53. (MLRA 6:8)
(Electric insulators and insulation--Testing)

BORISOGLEBSKIY P.V.

AKOPYAN, A.A.; BORISOGLEBSKIY, P.V.; BUTKEVICH, Yu.V.; DMOKHOVSKAYA, L.F.; RAZEVIG, D.V.; SIROTINSKIY, L.I.

Answer of the authors and of the editor. Elektrichestvo no.8:93 Ag '54. (MLRA 7:8)

(Electric engineering)

AID P - 4135

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 22/33

Author : Borisoglebskiy, P. V., Kand. Tech. Sci.

Title : Starting voltage of discharge of insulator chain for voltages up to 380 kv. (Review of foreign periodicals).

Periodical : Elektrichestvo, 12, 73, D 1955

Abstract : The author summarizes an article by O. H. Schmidt in Deutsche Elektrotechnik, p. 122, No. 4, 1954, concerning the results of tests in past years to determine the starting voltage of discharge of long insulator chains of various types. Similar tests on a large scale were made in 1950-1951 in the USSR by the Scientific Research Institute of Applied Telemechanics of the Ministry of Electric Power Stations. One German reference, 1954.

Institution : None

Submitted : No date

BORISOGLEBSKIY, P.V., kand.tekhn.nauk

Methods for analyzing transients in transformers. Trudy MÆI no.26: 154-168 '57. (MIRA 11:9)
(Electric transformers) (Transients (Electricity))

8(6)

AUTHOR: Borisoglebskiy, P.V., Docent, and Il'chenko, N.S.

TITLE: Electric Strength of Compound-Treated Mica Tape Insulation and Residual (Postpuncture) Strength for Different Kinds of Voltage (Elektricheskaya prochnost' mikalentnoy kompaundirovannoy izolyatsii i ostatochnaya (posleproboynaya) prochnost' pri razlichnykh vidakh napryazheniya)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Energetika, 1959, Nr 1, pp 83-88 (USSR)

ABSTRACT: In order to explore further the problem of selection of necessary and sufficient test voltage of industrial frequency, the authors studied the decrease of the electric strength of the insulation of stator windings under the cyclic action of increased voltage of industrial frequency as well as the residual strength of insulation after puncture by surge voltage used for the puncture of the insulation by industrial-frequency voltage: 1) gradual voltage increase; 2) voltage increase by degrees of 0.5 U_1 (U_1 = rated line voltage of the machine) at intervals

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of 5 to 7 minutes; 3) 4 or 5 cyclic changes of voltage (successive increases and decreases of 0.5 U_1 at intervals of 5 to 7 minutes), the maximum voltage of the cycle being 4.5 U_1, then voltage increase by degrees of 0.5 U_1 at intervals of 5 to 7 minutes. Compared with the puncture voltage found by method (1), the puncture voltage obtained by method (2) was 6 to 7% lower; that obtained by method (3), 17 to 25% lower. The minimum and the average puncture voltages of the insulation at 75 to 80°C were, respectively, 35 and 25% lower than the puncture voltage of the insulation in the cold state. The experiments have shown that the action of test voltages up to 3 U_1 during 1 minute is absolutely safe for sound insulation and does not reduce perceptibly its electric strength. The residual strength of the insulation after its puncture by surge voltage was determined with industrial-frequency voltage and with rectified voltage. Besides, residual strength of insulation was determined with rectified voltage after its puncture with industrial-frequency

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voltage. It has been established that weakened insulation, i.e. insulation punctured by surge voltage and resulting overvoltages, can be detected by tests with alternating voltage of industrial frequency and rectified voltage equal to 2 U_1 and higher. There are 4 tables and 3 Soviet references.

ASSOCIATION: Moskovskiy ordena Lenina energeticheskiy institut (Moscow, Order of Lenin, Institute of Power Engineering), Kiyevskiy ordena Lenina politekhnicheskiy institut (Kiyev, Order of Lenin, Polytechnical Institute)

PRESENTED: By the Kafedra dielektrikov i poluprovodnikov KPI (Chair of Dielectrics and Transistors, KPI)

SUBMITTED: September 29, 1958

BORISOGLEBSKIY, P.V.; IL'CHENKO, N.S.

Mechanism of the breakdown of impregnated mica tape insulation by current of industrial frequency. Izv.vys.ucheb. zav.; fiz. no.5:64-71 '59. (MIRA 13:4)

1. Kiyevskiy politekhnicheskiy institut.
(Electric insulators and insulation)

SOV/144-59-8-9/14

AUTHORS: Borisoglebskiy, P.V., (Cand.Tech.Sci., Acting Docent) and Il'chenko, N.S., (Cand.Tech.Sci., Docent)

TITLE: An Investigation of the Ageing Processes in the Insulation of Electrical Machines

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1959, Nr 8, pp 86-94 (USSR)

ABSTRACT: Tests were carried out at the Moscow Power Institute on the accelerated ageing of micafolium compound insulation subjected to high voltage and fairly high temperatures. The test pieces consisted of conductors from a 6-kW synchronous motor type SM-860 750 with micafolium insulation 2.8 mm thick, covered with cotton tape 0.2 mm thick. The windings were manufactured by the Elektrosila works. All the tests were made on sections 100 mm long. The second electrode consisted of foil attached to the surface of the insulation with a conducting lacquer. Barriers were fitted where necessary so that breakdown voltages could be measured without flashover. Power-factor measurements were made on a bridge and by ionisation current methods with an oscillograph and the usual circuit. According to the existing standards GOST 183-55 and PTE (1953), insulation of this class may

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An Investigation of the Ageing Processes in the Insulation of Electrical Machines

operats continuously at a temperature of 120 °C. During overload permitted by the PTE standard the temperature will rise somewhat above 120 °C. It was, therefore, of interest to study the condition of the insulation at temperatures around 120 °C. The insulation was heated by passing current through the sections from the transformer with simultaneous measurement of power factor. Iron clamps were applied to the insulation separated by distances equal to the width of the ventilation ducts in the motor. During heating the current was increased in steps and held at each step for about two hours, which corresponded to a mean temperature rise of 15 °C at each step. The successive stages of visible deterioration of the insulation as the temperature is raised are described. At a temperature of 75-80 °C the insulation swells slightly where free from the clamps, and the power factor increases more sharply. On heating to 105-110 °C there is a marked increase in power factor, the insulation swells and the emission of gas can be detected by its sharp smell. At a temperature of 120-125 °C there is intensive

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evolution of gas and small drops of compound exude from the surface. At a temperature of 120-125 °C the power factor can no longer be measured at rated voltage because the galvanometer needle swings without apparent cause. However, the power factor could be measured at the reduced voltage of 1-2 kV. It will be seen from Fig 1 that there is a maximum in the power-factor curve at about 130 °C, then it falls at higher temperatures. This effect is reversible, being observed as the insulation cools down, and is apparently associated with redistribution of stress within the layers of insulation. It is concluded that if the insulation is subjected to temperatures higher than 105-110 °C it swells and voids are formed because compound is squeezed out. At temperatures above 120 °C changes take place in the condition of the insulation surface; conducting bridges are formed in which discharges occur even at rated voltage. The heating of insulation by dielectric loss was studied. On insulation that had first been heated to 70 °C the further temperature rise was 8 °C on applying three times rated voltage for one hour. The temperature

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rise due to dielectric loss was even smaller when the insulation was initially cold. It is concluded that dielectric heating will not damage the insulation during normal factory testing. Ageing due to ionisation in gas inclusions was then considered. Tests were made in which 6 kV insulation was held under 1.5 times rated voltage for 6-6½ hours. Cycling tests were also made with up to 20 cycles of 2½ times rated voltage. These tests did not lead to swelling of the insulation and caused no significant increase in the ionisation current; the evidence is plotted in Fig 2. However, similar treatment of sections that had been heated by current to temperatures of 105-110 °C, and which had swelled in consequence, caused a considerable increase in ionisation current: but the insulation did not break down, even after 42 hours application of 2.5 times rated voltage. It will be seen from the graphs in Fig 3 that the application to undamaged insulation of 3½ times rated voltage for 22-24 hours causes an appreciable increase in ionisation current. There is also partial breakdown of the insulation to a depth of 1-4 layers of insulation.

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Models consisting of sheets of mica with artificial air inclusions were made up to study the cause of flaking of insulation at the boundaries of ionised gas inclusions. After the models had been held for eight hours at a voltage sufficient to cause ionisation, the degree of ionisation in the models increased appreciably, as will be seen from the graph in Fig 4. It is concluded that ionisation of gas-spaces in the insulation is the cause of flaking. Similar flaking by ionised gas was also observed in insulation which had first been heated to a temperature of 80-100 °C. It is concluded that the main type of irreversible change in micafolium compound insulation subject to ionisation of gas inclusions is flaking of the insulation at the boundaries of the inclusions. An explanation is offered for the mechanism of flaking. Reduction in the electric strength of the micafolium compound insulation on the application of power-frequency voltage depends on the magnitude of the voltage and the time for which it is applied. Graphs of ionisation current are plotted in Fig 5, where curves 1 and 2 relate respectively to unswollen and swollen

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insulation before the application of 16-18 voltage cycles; curves 3 and 4 show the corresponding results after voltage cycling. The damage done by voltage cycling is discussed at some length. On the basis of the work recommendations are made about the power-frequency test voltage that may be applied without risk of damage to 6-kV micafolium compound insulation. A voltage of up to three times line voltage may be applied to new insulation for one minute without danger. A voltage of twice line voltage can be applied for one minute without danger to aged insulation provided that mechanical vibrations have not damaged the mica and overvoltages have not punctured it. These are, of course, the defects which it is required to detect in precautionary or preventive testing.

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There are 5 figures and 3 Soviet references.

ASSOCIATION: Kafedra tekhniki vysokikh napryazheniy, Moskovskiy energeticheskiy institut (Chair of High-Voltage Technology, Moscow Power Institute) (Borisoglebskiy) and

SOV/144-59-8-9/14

An Investigation of the Ageing Processes in the Insulation of Electrical Machines

Kafedra dielektrikov i poluprovodnikov, Kiyevskiy politekhnicheskiy institut (Chair of Dielectrics and Semiconductors, Kiyev Polytechnical Institute)(Il'chenko)

Card 7/7

SUBMITTED: May 22, 1959

SOV/110-59-9-14/22

AUTHORS: Boriscglebskiy, P.V. and Il'chenko, N.S. (Engineers)

TITLE: Reduction in the Electric Strength of the Insulation of Stator Windings of High-Voltage Electrical Machines

PERIODICAL: Vestnik elektropromyshlennosti, 1959, Nr 9, pp 50-52 (USSR)

ABSTRACT: This article is a contribution to discussion on the article by N.S. Skorik, Z.I. Kholopova and S.V. Tsukernik entitled 'On the electric strength of stator winding insulation of high-voltage electrical machines' published in Vestnik elektropromyshlennosti, 1958, Nr 2. The data given in their article was particularly useful because the electrodes had approximately the same area as the stator slots. However, the data on the reduction of electric strength that results from one-minute application of increased voltage and multiple voltage-applications at various winding temperatures is inadequate. Additional information is required on the reduction in electric strength of 6 kV insulation. The present authors made the corresponding measurements on sections of 6 kV stator windings. Particulars are given of the insulation used. Power-frequency voltage was applied in three ways: 1) by raising the voltage gradually; 2) by raising the voltage in steps, holding at each step for 5-7 minutes;

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3) by the application of cycles in each of which the voltage was raised and lowered again over a period of 5-7 minutes. The results of the breakdown voltage determinations by the three methods are given in Tables 1 and 2; they show how the electric strength falls as the rate of application of the voltage is increased. For example, taking as a basis the electric strength of micafolium insulation when the voltage is steadily raised, the electric strength is reduced by 6-7% when the voltage is raised in steps held for 5-7 minutes, and the application of four or five voltage cycles of the kind described reduces the electric strength by up to 25%. This effect is attributed to partial breakdown of the insulation during the short-term application high voltage. At a temperature of 75 - 80 °C the minimum and mean breakdown strengths are 25 and 35% lower respectively than the breakdown strength of the cold insulation. This effect is attributed to reduction in the strength of the varnish and compound and to more intense ionisation of gas inclusions in the insulation. The results show

Reduction in the Electric Strength of the Insulation of Stator Windings of High-voltage Electrical Machines

that the reduction in the electric strength of insulation depends very much on its physical condition and also on the rate of application of power-frequency voltage. There are 2 tables and 1 Soviet reference.

MIROLYUBOV, Nikolay Nikolayevich; KOSTENKO, Mikhail Vladimirovich; LEVINSHTEYN, Mikhail L'vovich; TIKHODEYEV, Nikolay Nikolayevich; DOLGIN, A.I., prof., retsenzent; BORISOGLEBSKIY, P.V., dots., retsenzent; PERKOVSKAYA, G.Ye., red.; GOROKHOVA, S.S., tekhn.red.

[Methods for calculating electrostatic fields] Metody rascheta elektrostaticheskikh polei. [By] N.N.Miroliubov i dr. Moskva, Vysshaia shkola, 1963. 414 p. (MIRA 17:3)

BORISOGLEBSKIY, Petr Vasil'yevich; DMOKHOVSKAYA, Lidiya Fedorovna; LARIONOV, Vladimir Petrovich; PANTAL', Yuriy Stanislavovich; RAZEVIG, Daniil Vsevolodovich, prof.; RYABKOVA, Yelena Yakovlevna; DOLGINOV, A.I., retsenzent; FERTIK, S.M., retsenzent; NIKOLAYEVA, M.I., red.; BORUNOV, N.I., tekhn. red.

[High-voltage engineering] Tekhnika vysokikh napriazhenii. [By] P.V.Borisoglebskii i dr. Moskva, Gosenergoizdat, 1963. 471 p. (MIRA 17:3)

MIKHALKOV, Aleksandr Vladimirovich; SERGEYEV, A.S., dots., retsenzent; DMOKHOVSKAYA, L.F., dots., retsenzent; BORISOGLEBSKIY, P.V., dots., retsenzent; LIPP, N.A., inzh., retsenzent; TEMKHIN, L.S., nauchn. red.; POLETAYEVA, T.G., red.

[High-voltage technology in examples and problems] Tekhnika vysokikh napriazhenii v primerakh i zadachakh. Moskva, Vysshaia shkola, 1965. 225 p. (MIRA 18:10)

L 4114-66 EWT(d)/EWT(l)/EWP(e)/EWP(v)/T/EWP(k)/EWP(h)/EWP(l)

ACC NR: AP5025667 UR/0167/65/000/004/0011/0018

AUTHOR: Borisoglebskiy, P. V.; Kudratillayev, A. B.

TITLE: Physical conditions for an efficient detection of flaws in high-voltage pulsed capacitors

SOURCE: AN UzSSR. Izvestiya. Seriya tekhnicheskikh nauk, no. 4, 1965, 11-18

TOPIC TAGS: capacitor, dielectric breakdown, dielectric insulation, flaw detection

ABSTRACT: The physical processes accompanying the rise of partial discharges and local defects in the insulation of high-voltage pulsed capacitors used as energy reservoirs for high pulsed currents are discussed. It is shown that in high-voltage pulsed capacitors with a large number of parallel- or series-connected sections there exists a pre-breakdown state caused by the development of ionization processes due to the presence of such defects as cracks, various inhomogeneities, and air and other inclusions in insulation, which ultimately lead to the dielectric breakdown of the capacitor. The breakdown of one section does not immediately lead to the breakdown of the entire capacitor. The flaw finder may be adjusted to signaling the appearance of the first section with breakdown. The resistance of the breakdown channel of the defective section is a function of the magnitude of current flowing through this chanel. The "metallic zero" resistance of the breakdown channel of the

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ACC NR: AP5025667

defective section may be eliminated by means of a specified number of discharges of the capacitor battery, which includes the capacitor with the defective section, at up to 50% of its rated voltage (with respect to its rated load resistance). As the pulsed discharge current passes through the defective section, a shock wave arises in the breakdown channel and is recorded by appropriate instruments. Orig. art. has: 5 figures, 1 table.

ASSOCIATION: Moskovskiy ordena Lenina energeticheskiy institut (Moscow Energetics Institute); Uzbekskiy nauchno-issledovatel'skiy institut energetiki i avtomatiki (Uzbek Scientific Research Institute of Energetics and Automation)

SUBMITTED: 10Mar65 ENCL: 00 SUB CODE: EE, IE

NO REF SOV: 004 OTHER: 001

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Card

83332

11.1105 17.1150

S/096/60/000/010/017/022
E194/E135

AUTHORS: Timrot, D.L., and Borisoglebskiy, V.P.

TITLE: Determination of the Density of Liquid Oxygen over a Wide Range of Temperatures and Pressures

PERIODICAL: Teploenergetika, 1960, No 10, p 95

TEXT: An experimental study of the thermal properties of liquid oxygen was carried out by the method of an unloaded piezometer. The quantity of oxygen evolved from the piezometer during the course of the experiment was measured (in gaseous form) by a volumetric method. A precision experimental equipment was constructed to suit the procedure selected. The rig was used to make investigations of the density of liquid oxygen in the temperature range of -190 to +120 °C at pressures up to 200 kg/cm^2 and also the density of liquid oxygen on the saturation curve over the same temperature range. The experimental data were worked out by analytical and graphical-analytical methods so that the thermal properties of liquid oxygen could be represented in the form of detailed tables over the entire range of parameters of state investigated.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power Institute)

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S/056/60/038/06/03/012
B006/B056

5.1330

AUTHORS: Timrot, D. L., Borisoglebskiy, V. P.

TITLE: Density of Liquid Oxygen on the Saturation Curve

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 6, pp. 1729-1732

TEXT: In the introduction it is criticized that the density of liquid oxygen on the saturation curve has been insufficiently well investigated and that the results obtained by the various authors differ by up to 5%. Therefore, the temperature and pressure dependence of this density was once again measured by the authors by means of a constant-volume piezometer and a gasometer which were located in a cryostat and/or a thermostat. The arrangement of the devices and their construction is shown in detail in Fig. 1. The oxygen pressure in the piezometer was measured by means of a piston manometer; its temperature by means of a resistance thermometer of spectrally pure platinum. Liquid nitrogen and Freon-12 served as thermostat liquids; the temperature field in the cryostat was controlled by means of copper-constantan thermocouples.

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Density of Liquid Oxygen on the Saturation Curve

As a result of the experiments, 184 experimental points were obtained, which are distributed uniformly over 10 quasi-isochores and saturation curves. The oxygen gas in the gasometer at room temperature and a pressure of not more than 3.5 kg/cm^2 behaves nearly like a perfect gas and has been experimentally sufficiently well investigated, so that the errors in measurements may be described as negligible (for the saturation curve $\pm$0.15%). The data of measurement of the saturation curve are shown in a table within the range from -194.03 to -119.70°C. Within this range the pressures are between 0.27 and 49.14 kg/cm^2, and the densities between 1.1879 and 0.5795 g/cm^3. In Fig. 2 the results of measurement of the two experimental series are compared with the results obtained by other authors; the best agreement is obtained by means of data from Ref. 6, where the deviation is not more than 0.25%. There are 2 figures, 1 table, and 9 references: 2 Soviet, 2 German, 3 British, and 1 Dutch.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Institute of Power Engineering)

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81668

Density of Liquid Oxygen on the Saturation Curve

S/056/60/038/06/03/012
B006/B056

SUBMITTED: February 6, 1960

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BORISOGLEBSKIY, V. P.

Cand Tech Sci - (diss) "Experimental study of the density of liquid density in a broad interval of temperature and pressure, including the saturation curve." Moscow, 1961. 22 pp; 1 page of tables; (Power Inst imeni G. M. Krzhizhanovskiy); 150 copies; price not given; (KL, 7-61 sup, 232)

88263

S/170/61/004/001/001/020
B019/B056

11.1105

AUTHORS: Timrot, D. L., Borisoglebskiy, V. P.

TITLE: Experimental Investigation of the Density of Liquid Oxygen at Temperatures From -190 to -120°C and Pressures up to 200 kg/cm^2, Including the Saturation Curve

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1961, Vol. 4, No. 1, pp. 3 - 13

TEXT: In the introduction, the scheme of the experimental arrangement shown in Fig.1 is discussed in detail. Further, the calibration of the experimental arrangement and its behavior under experimental conditions (volume increase of the piezometer by pressure and temperature) are described. This work was carried out at the Kafedra inzhenernoy teplofiziki MEI (Department of Heat Engineering of MEI). Two series of experiments were made. The first series was carried out in a range of state parameters, where pressure does not produce any essential effect upon density. The pressure measurements were carried out by a spring

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manometer. The second series was carried out within a wider range of state parameters, which also comprised the saturation curve. Within the range of lower densities, pressure measurements were done with a piston manometer. A semi-empirical formula for the oxygen density as a temperature function along the saturation curve is obtained:

$\rho_s = 0.4300 + 0.1\sqrt{(0.77r+1)^2 - 1} - \delta$, g/cm³, where

$\delta \cdot 10^3 = 5.5 + 1.637(r-5.5)\dfrac{9.41 - (r-5.5)^2}{9.41 + (r-5.5)^2}$ and $r = t_{cr} - t_s$. The isochores and isothermal lines shown in Figs. 3 and 4 may, in the authors' opinion, be considered to be improved Mathias and Onnes curves (Ref.4). N. V. Tsederberg, I. Ishkin, and P. Buro are mentioned. There are 5 figures, 1 table, and 15 references: 5 Soviet, 4 US, 3 British, 2 German, and 1 Dutch.

Experimental Investigation of the Density of Liquid Oxygen at Temperatures From -190 to -120°C and Pressures up to 200 kg/cm^2, Including the Saturation Curve

S/170/61/004/001/001/020
B019/B056

ASSOCIATION: Energeticheskiy institut, g. Moskva (Institute of Power Engineering, Moscow)

SUBMITTED: July 7, 1960

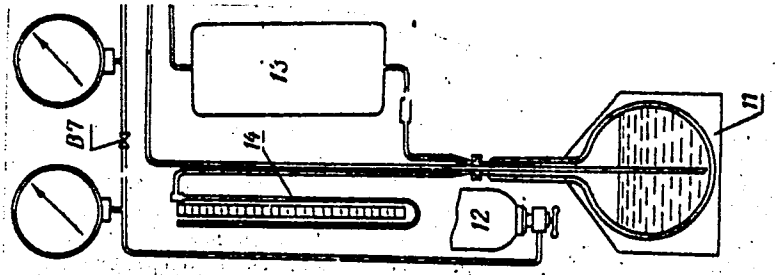

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Fig.1

GOLOVANOV, M.G. [Holovanov, M.H.]; BORISOGLEBSKIY, V.V.[Borysohliebs'kyi, V.V.]; KUZ'MENKO, Ye.A. [Kuz'menko, IE.A.]

Use of resins obtained from the bitumen of brown coals. Khim. prom. [Ukr.] no.1:34-36 Ja-Mr '63 (MIRA 17:7)

1. NDImistsevpalivprom.

USSR / Microbiology. Anaerobic Bacilli. F-6

Abs Jour: Ref Zhur-Biol., No 16, 1958, 72220.

Author : Borisonik, Ts. B.
Inst : Not given.
Title : Obtaining Bac, oedematiens Toxin in Cellophane Kits.

Orig Pub: V. sb.; Anaerobnyye infektsii, Kiyev, Gosmedizdat USSR, 1957, 140-144.

Abstract: No abstract.

Card 1/1

GOLOVANOV, N.G., kand.tekhn.nauk; BORISOGLEBSKIY, V.V., inzh.

Tarry components of lignite bitumens. Trudy NIIMesttoppproma no.17:87-117 '62. (MIRA 16:5)
(Bitumen—Analysis) (Coal tar)

BORISOGLEVSKIY, L.

When medicine is business. Zdorov'e 9 no.1:29 Ja '63. (MIRA 16:7)
(UNITED STATES—MEDICAL CARE)

BORISONIK, Z.B.

[Barley and oats in the Chernozem region] IAchmen' i oves v chernozemnoi zone. Moskva, Gos. izd-vo sel'khoz lit-ry, 1957. 162 p.
(Barley) (MIRA 11:2)